به نام خداوند جان و خرد
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PRESSURE ULCER MANAGEMENT

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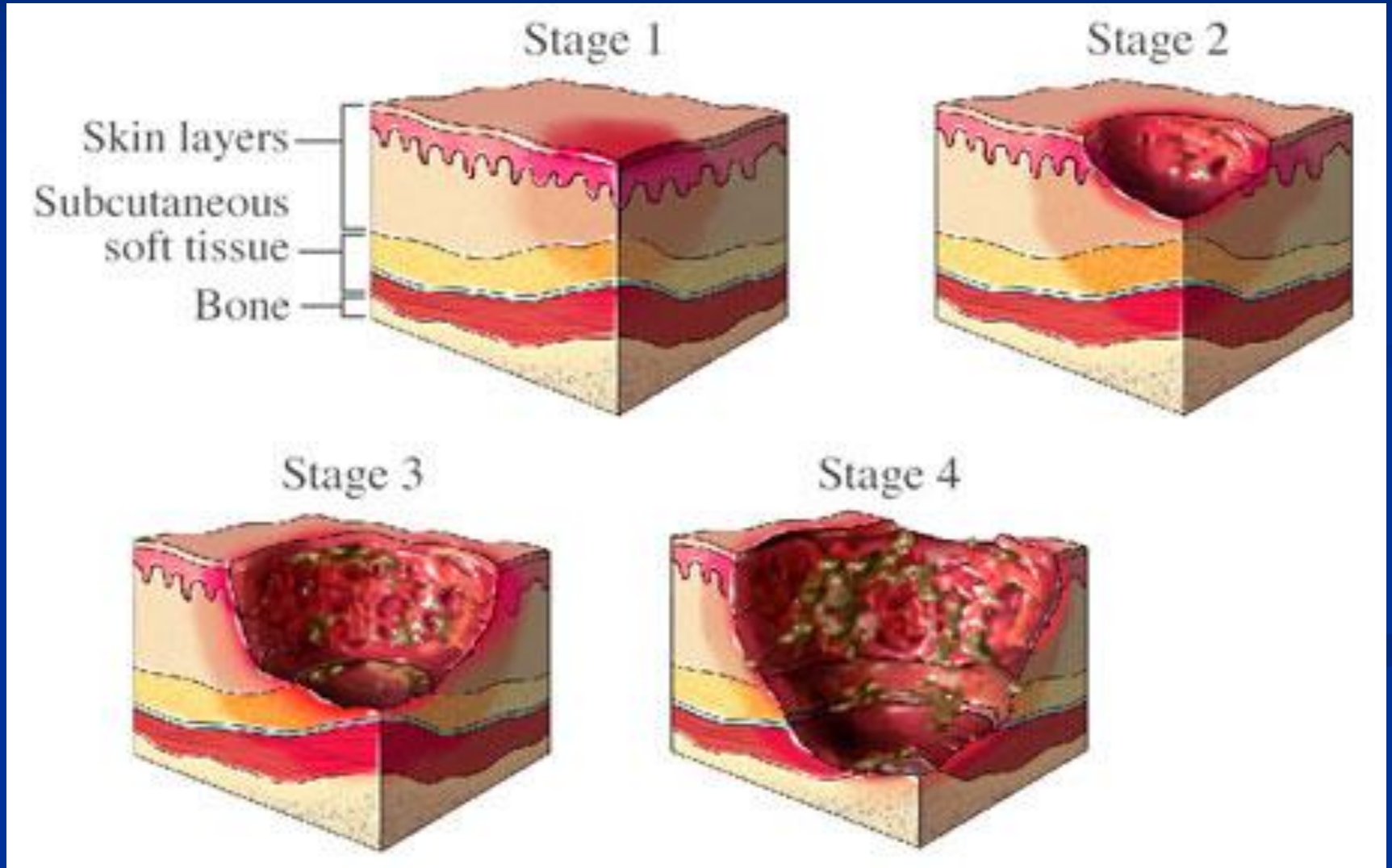
PRESSURE ULCER

"Couldn't find anything wrong with this one. Maybe he's just lazy."

Noticeable Facts

- *Significant Prevalence*
  - *10% to 18% in acute care*
- *Cause of Death*
  - *Pressure ulcer causes another complications*
- *Can Trigger Sepsis*
  - *Bacteria from pressure ulcer entering the bloodstream*

Stages of Pressure Ulcers



4 Stages of Pressure Ulcers

- Reddened area of skin
- Blister/Open Sore
- Crater (bowl shaped depression on surface)
- Damage to muscle or bone

Pressure Ulcer Risk Factors

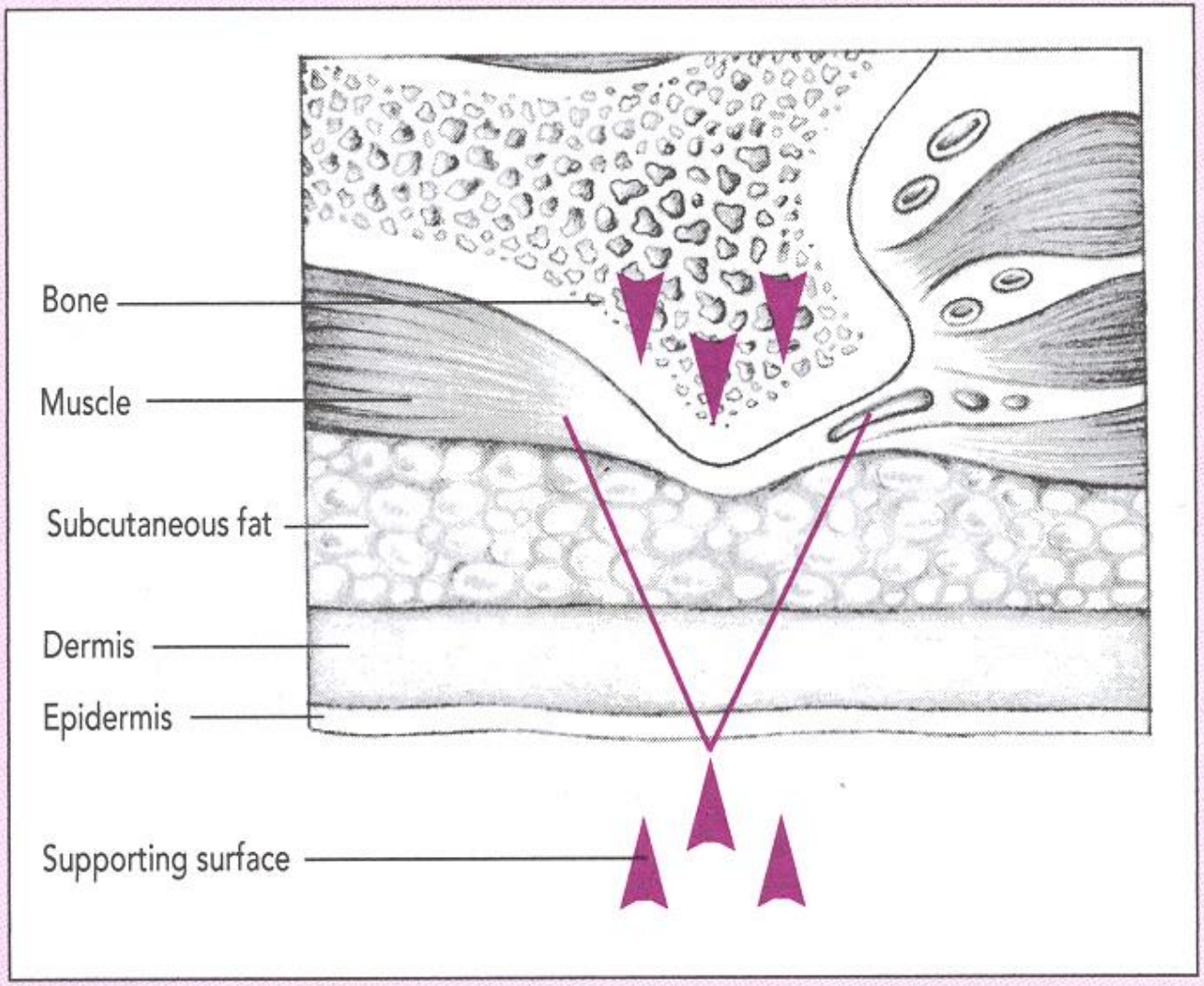
- Old Age
- Lack of mobility
- Malnutrition
- Unwanted moisture(Sweating, incontinence)
- Pressure ulcers in the past
- Obesity or extreme slimmness
- Paralysis
- Circulation disorder
- Mental, neurological and other physical problems(Chronically)
- Dehydration
- Friction & shearing(Poor lifting and transferring techniques)
- Wrinkled sheets or hard objects left in the bed
- Immunosuppresion
- Multisystem trauma
- Diminished pain &pressure awareness

Predisposing Factors

- PRESSURE
- FRICTION
- SHEARING
- MOISTURE

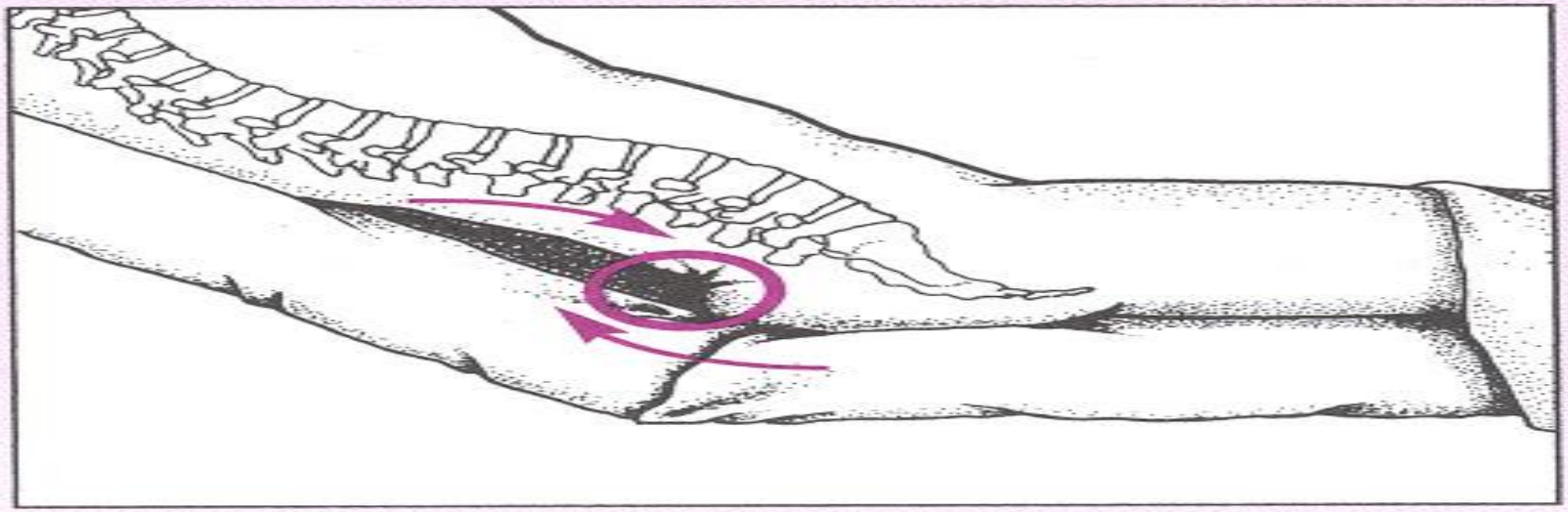
Pressure gradient

In the illustration to the right, the V-shaped pressure gradient results from the upward force (upward arrows) exerted by the supporting surface against downward force (downward arrows) exerted by the bony prominence. Pressure is greatest on tissues at the apex of the gradient and lessens to the right and left of this point.



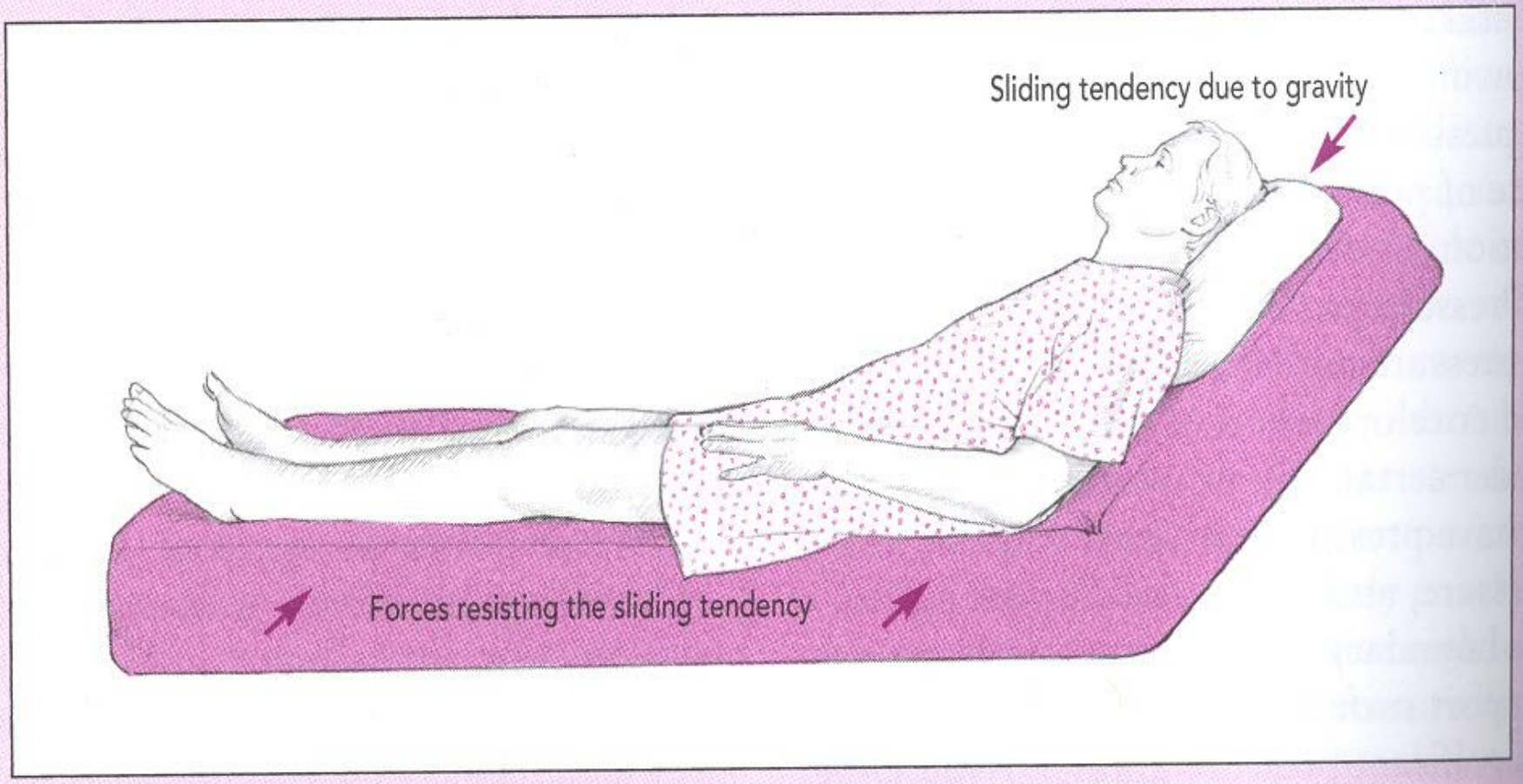
Shearing force

Shear injury is a mechanical force parallel, rather than perpendicular, to an area of tissue. In the illustration below, gravity pulls the body down the incline of the bed. The skeleton and attached deep fascia slide within the skin, while the skin and superficial fascia, attached to the dermis, remain stationary, held in place by friction between the skin and the bed linen. This internal slide compromises blood supply to the area.

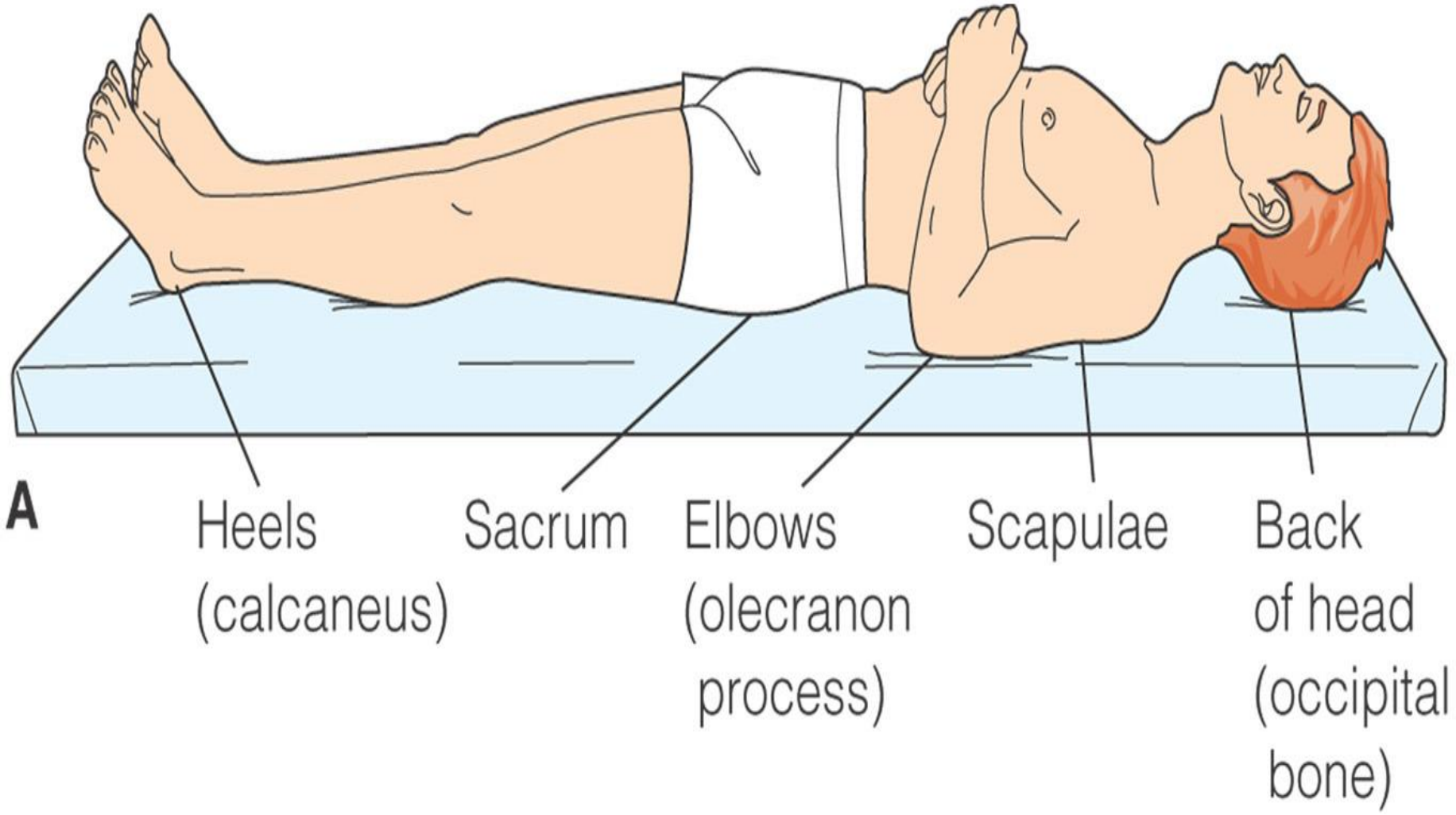


Friction and shear forces

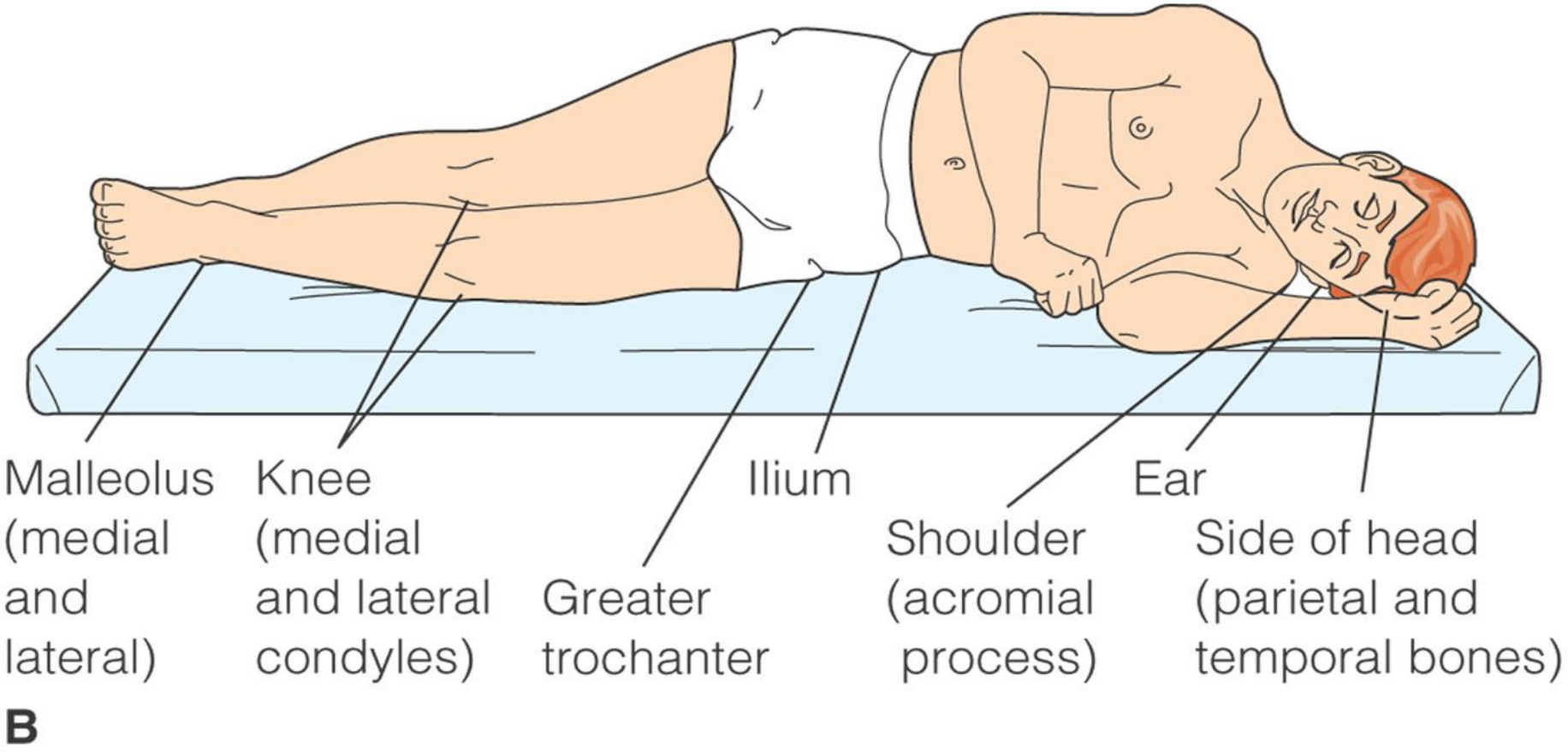
This illustration shows the friction and shear forces acting on a person lying in bed.



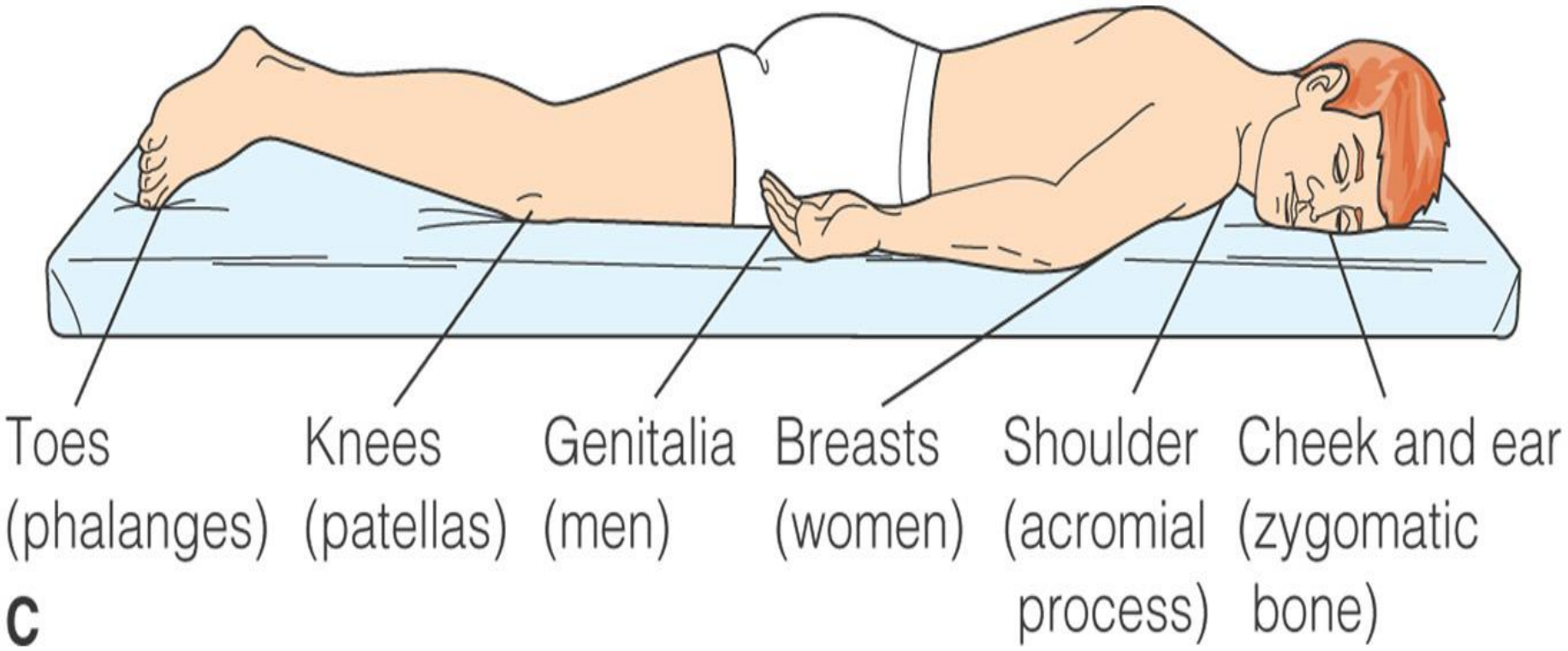
Body pressure areas in Supine Position



Body pressure areas in Lateral Position:



Body pressure areas in Prone Position:



Measures to Prevent Pressure Ulcers

- *Providing nutrition*
- *Maintaining skin hygiene*
- *Avoiding skin trauma*
- *Providing supportive devices*

COMPREHENSIVE TREATMENT in PRESSURE ULCER

Assessment of Pressure Ulcers

- Location of the ulcer
- Size of ulcer(length , width , and depth)
- Presence of sinus tracts(Tunneling)
- Stage of the ulcer
- Color of the wound bed
- Location of necrosis or scar
- Condition of the wound margins
- Integrity of surrounding skin(peri wound)
- Clinical signs of infection

RYB Color Guide for Wound Care

- Red (protect)
- Yellow (cleanse)
- Black (debride)

MEASURES
Principles of Care

M : Minimize Trauma to Wound Bed

E : Eliminate Dead Space

A : Assess&Manage Exudate

S : Support the Body's Tissue Defense System

U : Use Non-Toxic Wound Cleansers

R : Remove Infection,Debris,Necrotic Tissue

E : Environment Maintanance(Moist Wound Bed,Thermal Insulation)

S : Surrounding Tissue,Protect From Injury and Bacterial Invasion

TREATMENT

1. Cleansing
2. Debridement
3. Dressing
4. Pressure Redistributing
5. Control of Infection
6. Nutrition

WOUND CLEANSING

Irrigation of wound

With

Suitable solutions

Such as

Normal Saline

DEBRIDEMENT

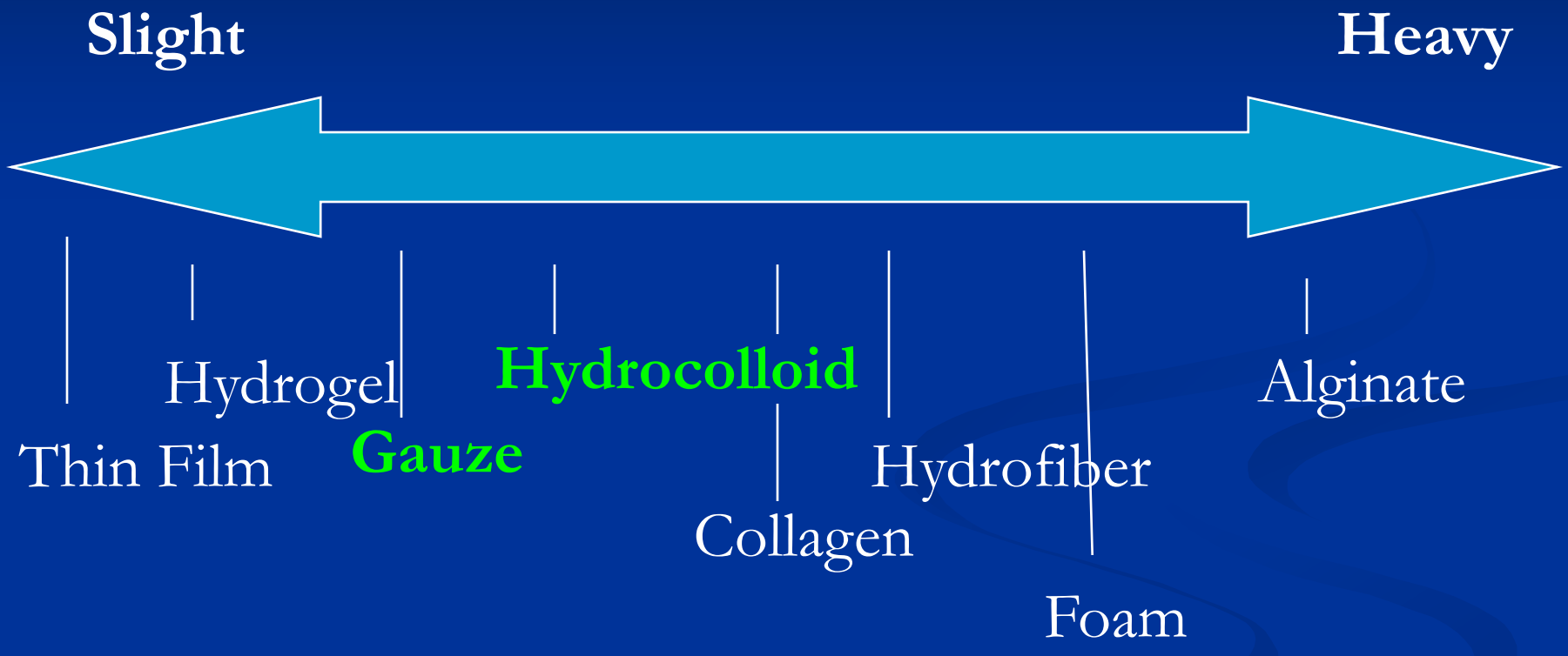
- *Surgical,Laser*
- *Autolytic*
- *Enzymatic*
- *Mechanical*
- *Biological*

Wound Dressing for:

Guidelines for dressing use:

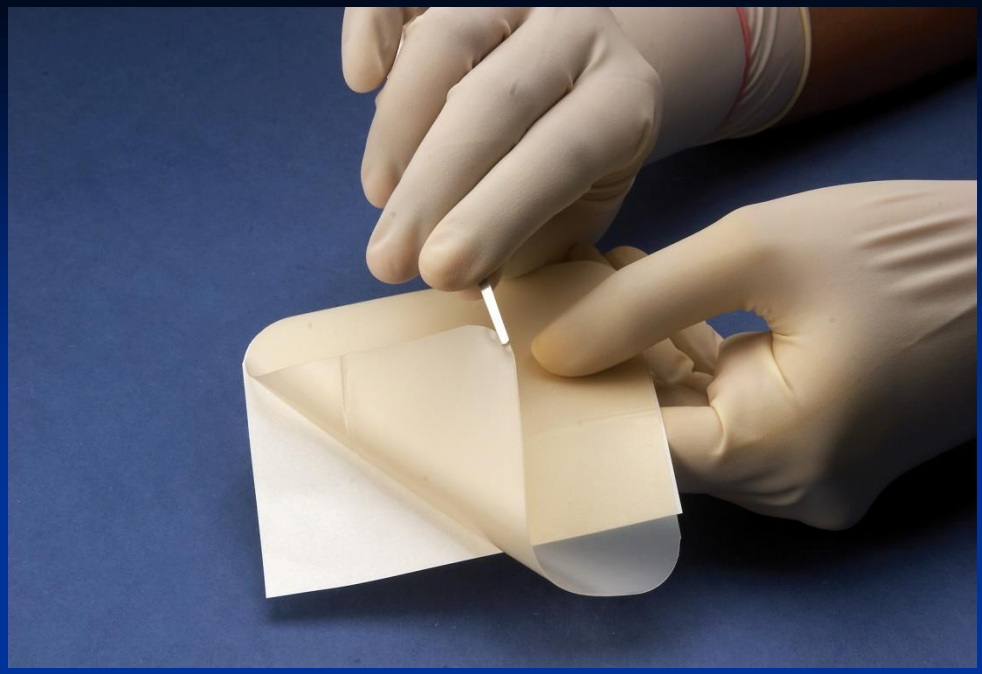
- No excessive pressure
- Full contact with wound bed
- Protects peri wound tissue
- Monitor dressing
- Control exudates without drying out wound
- When wound is dry , Give it moisture
- When wound is draining , Take away moisture
- When wound is infected , Monitor it

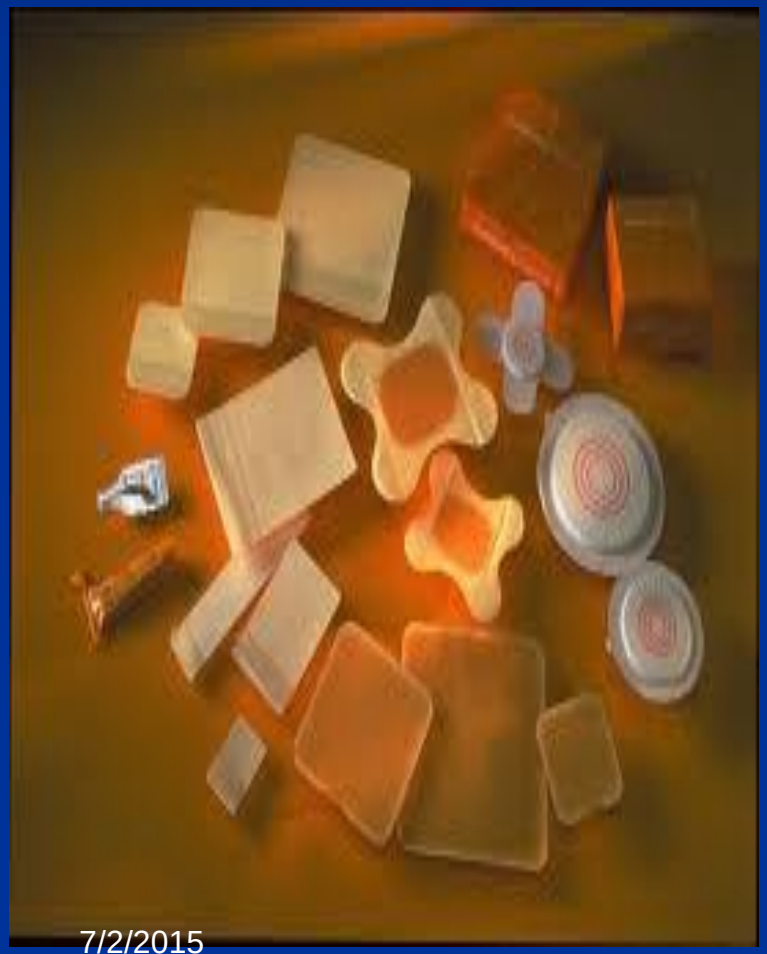
Amount of Drainage



Dressing Choice

Hydrogel Dressing





Hydrocolloid Dressing

Foam Dresing

Alginate Dressing

Vacuum-assisted closure (VAC) system for wounds

Negative Pressure Wound Therapy (NPWT)

Pressure Distributing & Providing Supportive Devices

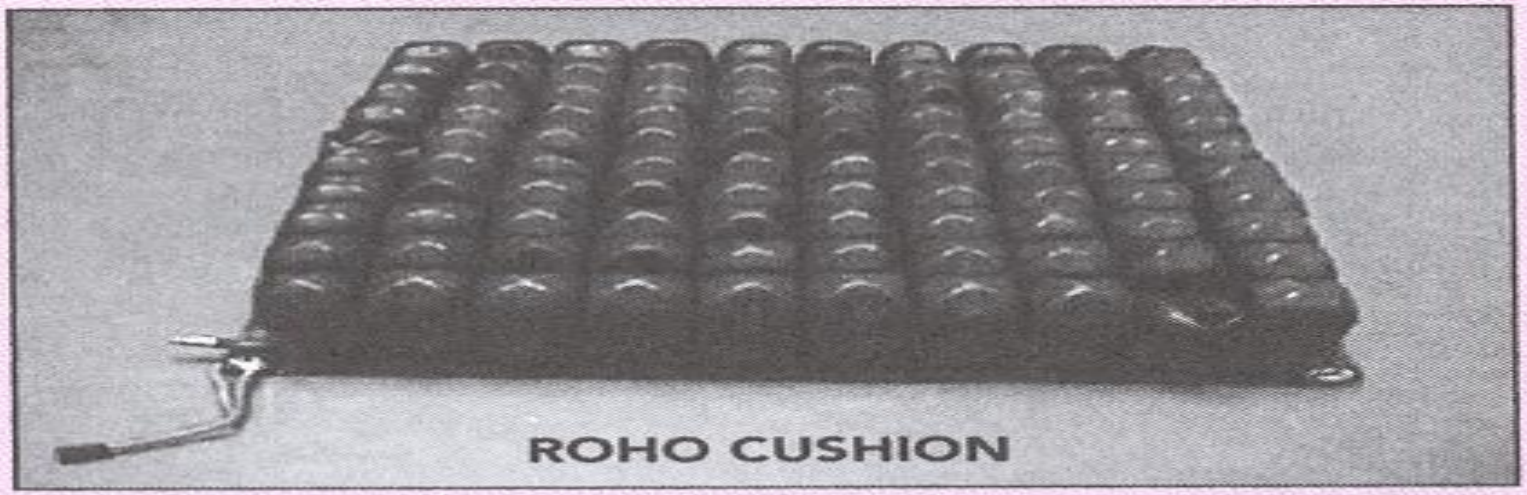
- *Mattresses*
- *Beds*
- *Wedges, pillows*
- *Miscellaneous devices*

Low-air-loss bed

Low-air-loss and air-fluidized combo bed

Fluid-filled products

As the photos demonstrate, fluid-filled products come in a variety of forms.

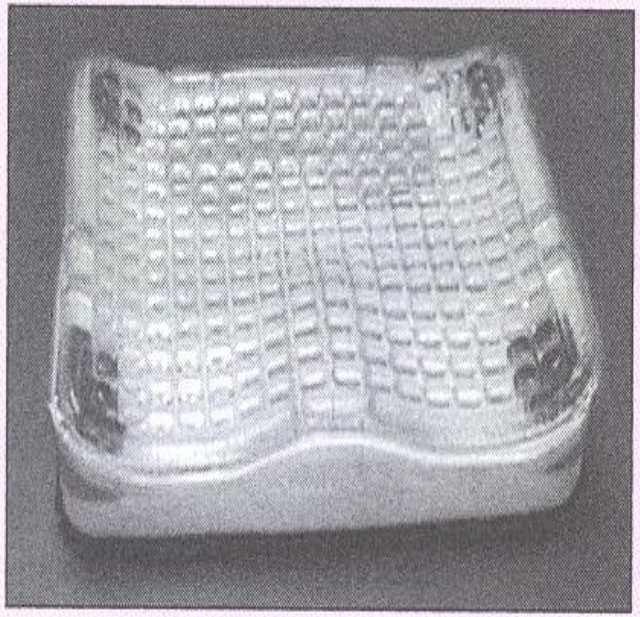


ROHO CUSHION

RIK MATTRESS

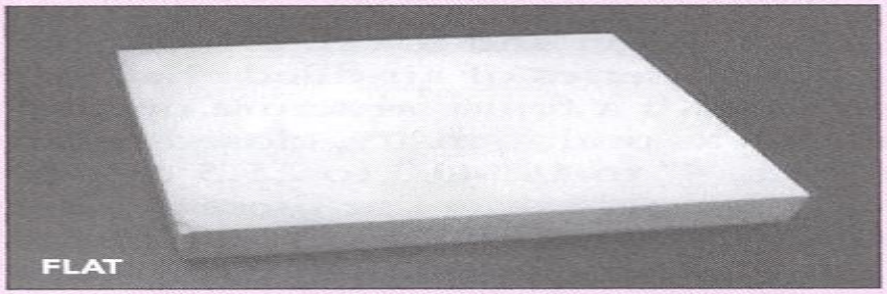
Viscoelastic gel seat cushion

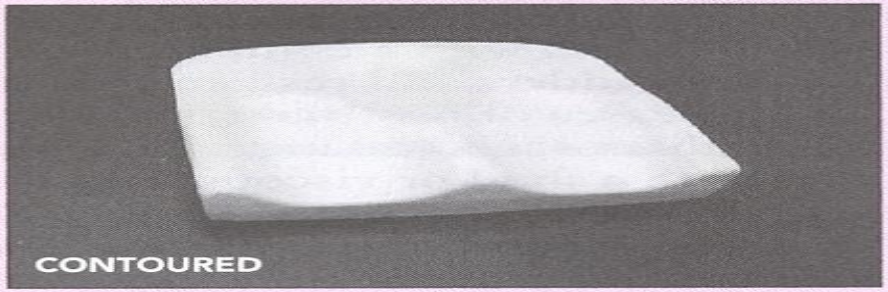
The photo shows a viscoelastic gel seat cushion. Viscoelastic products are also available in other shapes.

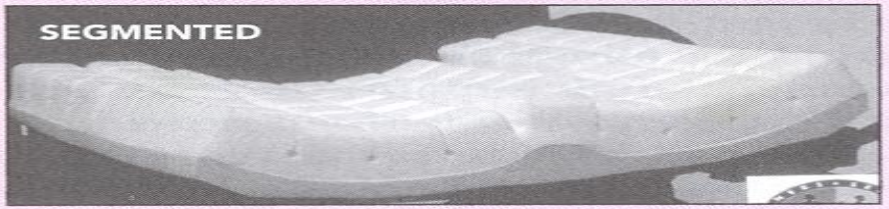


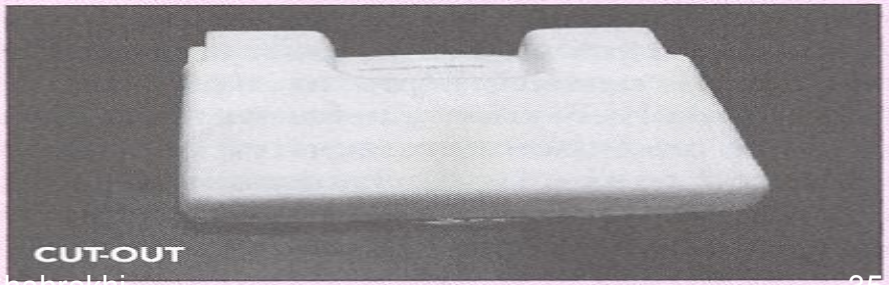
Elastic foam seat cushions

These photos show four different types of elastic foam seat cushions.



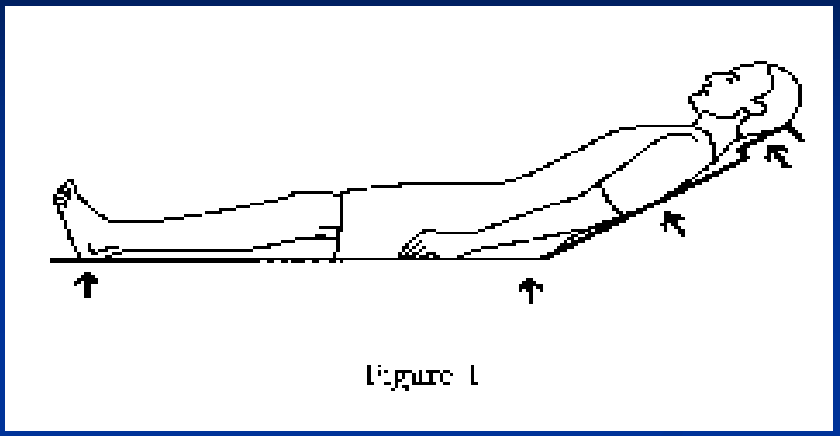






Rule of 30

- The head of the bed is elevated to **30 degrees or less**



- The body is placed in a **30-degree laterally inclined position**, when repositioned to either side

Providing Nutritional Support

- Maintain fluid intake of at least 2500 mL per day unless contraindicated,high Calorie, high protein diet rich in vitamins C, A,and Zinc.
- Dietary consultation and nutritional supplements should be considered for nutritionally compromised clients.
- Weight should be monitored as should lab data monitoring {e.g. Lymphocyte count,Serum Protein (especially Albumin), and Hb levels}

GERONTOLOGIC CONSIDERATIONS

Older adults are at high risk of Pressure ulcer because they:

- have skin that is fragile and damages easily
- are often in a poor nutritional status
- have reduced sensation of pain and pressure
- are more frequently affected by immobile and edematous conditions,which contribute to skin breakdown

Delayed Healing in Elderly

Because of:

- ✓ **Slower Turnover rate in Epithelial cells**
- ✓ **Poor Oxygenation of the wound(due to fragile cappilaries and reducing of skin vascularization)**
- ✓ **Impaired function of respiratory or immune system**
- ✓ **Reduced dermal & subcutaneous mass**
- ✓ **Lack of tensile strength in healed wound(prone to reinjury)**

Valuable Resources

- **www.npuap.org**
- **www.epuap.org**
- **www.aawconline.org**
- **www.aawm.org**
- **www.apwca.org**

تنت به ناز طبیبان نیازمند مباد
وجود نازکت آزرده گزند مباد

سلامت همه آفاق در سلامت توست
به هیچ عارضه شخص تودردمندمباد